App No.: 09/518287 Docket No.: MWS-064RCE2 Inventor: David A. FOTI et al.

Title: METHOD AND SYSTEM FOR ACCESSING EXTERNALLY-

DEFINED OBJECTS FROM AN ARRAY-BASED, etc.

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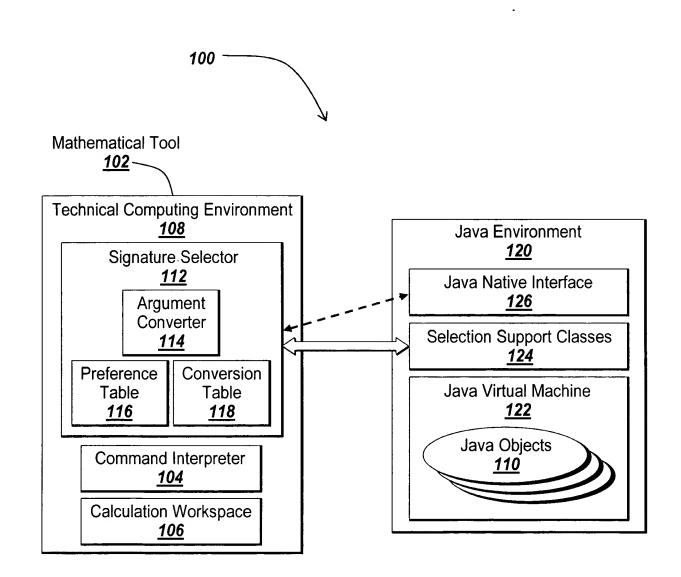


Fig. 1

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200 Retrieve a list of method 203 signatures having similar method names to a target method 205 For each signature, calculate a fitness ranking: 207 Calculate a fitness value for each parameter defined by the signature 209 Update the fitness value based on distance in class hierarchy 211 Compare dimensions and update the fitness value 213 Calculate the signature fitness ranking based on the fitness values for the parameters 215 Select one of the signatures according to the calculated signature fitness rankings 217 Invoke method corresponding to the selected signature

Fig. 2

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Mathematical Tool Data Type	Java Data Type Best Fit					Worst Fit	
logical	boolean						
double	double	float	long	int	short	byte	boolean
single	float	double					
char	String	char					
array of char arrays	String						
array of arrays	Object						
unsigned 8-bit int	byte	short	int	long	float	double	
unsigned 16-bit int	short	int	long	float	double		
unsigned 32-bit int	int	long	float	double			
signed 8-bit int	byte	short	int	long	float	double	
signed 16-bit int	short	int	long	float	double		
signed 32-bit int	int	long	float	double			
java	Object						

Fig. 3

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Java Data Type	Mathematical Tool Data Type (for scalar Java types)	Mathematical Tool Data Type (for array Java types)			
boolean	double precision floating point	boolean			
byte	double precision floating point	8-bit signed integer			
char	char	char (16-bit)			
short	double precision floating point	16-bit signed integer			
int	double precision floating point	32-bit signed integer			
long	double precision floating point	double precision floating point			
float	double precision floating point	double precision floating point			
double	double precision floating point	double precision floating point			
java.lang.String Object	char array	char array			
Java object	Reference to Java object	Reference to Java object			

Fig. 4

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